

ABSTRACT

The invention comprises a magnetic random access memory (MRAM) with stackable architecture. A first word line is configured to carry electric current. A first memory column is electrically coupled to the word line and is comprised of a plurality of memory cells electrically coupled and adjacent to each other. Each memory cell is configured to store data by magnetic alignment of the memory cell. A first bit line column is electrically isolated from the first word line and is magnetically coupled to and electrically isolated from the first memory column. The first bit line column comprises a plurality of bit lines that are electrically isolated from each other and configured to carry electric current during a memory read and a memory write. The first bit line column is parallel to the first memory column.